

XLII.—*New Mammals from the Australian Region.*
By OLDFIELD THOMAS.

Hydromys esox, sp. n.

Size rather less than in the Australian forms of the genus. General colour of body above mummy-brown, this colour being produced by an even intermixture of black and buffy-tipped hairs. Sides more buffy, passing on the lower surface into a dull whitish, strongly suffused with a peculiar brownish-salmon tone (between Ridgway's "vinaceous cinnamon" and "vinaceous buff"); this suffusion is strongest on the chest, weakest in the inguinal region. Top of head, above a line from halfway between the nose and mouth running back below the eye and ear, blackish, markedly darker than the body on the crown, and quite black laterally on the sides of the muzzle and on a large patch round each ear. Ears small, practically naked. Fore limb wholly like belly, except for a dark mark running down the outer side of the wrist. Back of legs brown, front of legs and top of feet buffy whitish. Tail with about three fifths of its short-haired part black, two fifths white.

Skull decidedly smaller than that of the Australian *H. chrysogaster*, but similar in general characters. The nasals do not so far surpass posteriorly the frontal premaxillary processes, which are themselves more slender, only 1 mm. broad at their narrowest point above the anteorbital foramina. Front of nasals above hinder edge of incisors, more usually above their anterior surface. Palatal foramina penetrating well into maxilla.

Dimensions of the type (measured in skin):—

Head and body 295 mm.; tail 225; hind foot (wet) 50; ear (wet) 15.

Skull: basal length (c.) 46; zygomatic breadth 24·7; nasals 15·5 × 5·4; intertemporal breadth 6·7; breadth of brain-case above meatus 18·8; height of muzzle behind incisors 8·5; palatilar length 23·7; diastema 14·2; palatal foramina 5·3; length of upper molar series 8·1, of *m*¹ 5·9.

Hab. Port Moresby, British New Guinea.

Type. Adult male. B.M. no. 6. 1. 26. 1.

The only species with which this water-rat need be compared is *H. Beccarii*, Peters*, described originally from the

* Ann. Mus. Genov. vi. p. 303 (1874); Peters and Doria, *op. cit.* xvi. p. 706, pl. xviii. (1881).

Key Islands, but afterwards stated to occur in New Guinea. Its colour, however, is said to be suffused with ochraceous above and below, while there is none of this colour in *H. esox*. Its tail also is only black for one third its length, while in *H. esox* considerably more than half is black.

LIMNOMYS, gen. nov.

Closely allied to *Hydromys*, but less strongly specialized for aquatic life.

Fur coarse and harsh, not straight and glossy as in *Hydromys*, or at least only slightly so on the belly. Muzzle, whiskers, and ears as in *Hydromys*. Feet intermediate in character, nearly normal in general shape, not strongly twisted as in *Hydromys*; hallux and last hind toe with practically no webbing at their bases; webbing between second and third and third and fourth toes narrow, not reaching halfway along the toes; fifth hind toe, without claw, reaching nearly to the end of the basal phalanx of the fourth; surface of soles nearly normal, smooth or very slightly granulated, the pads distinct, their size and position nearly as in *Hydromys*, but more distinct, owing to the smoother general surface. Tail long, heavily clothed as in *Hydromys*, but the end with a distinct brush of hairs, some of which attain an inch in length.

Skull, as compared with that of *Hydromys*, curiously short and "stumpy," the brain-case short and broad, its breadth greater than its length from the hinder edge of the interparietal to the intertemporal constriction; muzzle broad, conical, its middle region increased in breadth owing to the inflation of the lateral capsules over the roots of the incisors; nasals less extended forwards than in *Hydromys* and more backwards, much broader behind than the narrow frontal premaxillary processes. Anteorbital foramina very large, equally wide above and below. Palatal foramina peculiarly short, practically wholly in the premaxillæ, a small process of the maxillæ only just bordering their posterior end. Sides of mesopterygoid fossa more rounded, less sharply edged than in *Hydromys*, this being apparently due to a reduction in the height of the entopterygoids, while the ectopterygoids are practically obsolete. But the pterygoid region is imperfect in the typical skull, so that it cannot be exactly described. Bullæ as in *Hydromys*.

Incisors feebler in every way than in *Hydromys*, shorter, narrower, shallower in antero-posterior section, the upper ones set at a greater angle to each other owing to the increased

breadth of the muzzle; no perceptible external capsule over the roots of the lower pair, which do not extend further back than the level of the front of the low coronoid process. Molars practically as in *Hydromys*, though larger, and the segments of m^1 rather more extended transversely.

Type:—

Limnomys asper, sp. n.

Size that of a rather small *Hydromys*. Fur crisp and harsh; hairs of back about 8 mm. in length; underfur thick and woolly, about 6 mm. long. General colour of upper surface coarsely grizzled grey-brown (nearest to "hair-brown" of Ridgway), the ends of the longest hairs black, those of the shorter ones dull creamy whitish; underfur glossy whitish at base, slaty brown terminally. Lower surface dull greyish washed with buffy, not sharply defined laterally. Head like back. Whiskers very strong and numerous, the upper ones black, the lower white. Ears short, rounded, finely haired, greyish brown. Upper surface of hands and feet pale brownish. Tail above and below brownish black for rather more than half its length, the remainder white.

Skull and teeth as described above.

Dimensions of the type (taken in skin):—

Head and body (perhaps shrunk) 240 mm.; tail 260; hind foot (wet) 54.5; ear 15.

Skull: basilar length 40.2; zygomatic breadth 26.5; nasals 15.5 × 6.1; interorbital breadth 11.7; intertemporal breadth 8.3; breadth of brain-case 21.5; breadth of muzzle at centre 12.2; height of muzzle 11.2; palatilar length 23; diastema 12.5; palatal foramina 4.4 × 2.7; length of m^1 9.6. Lower jaw, condyle to incisor-tip 34.

Hab. Mount Gayata, Richardson Range, British New Guinea. Alt. 2000-4000'.

Type. Adult male. B.M. no. 99. 4. 4. 1.

This interesting rat would seem to be an early development of the *Hydromys* type, less modified for aquatic life than in that genus, but showing many characters in common with it. In its dentition, however, it is fully as specialized, having only $\frac{2}{2}$ molars, and showing no trace of the more Murine type of teeth, such as may be perceived in certain other members of the subfamily Hydromyinae.

Mus niobe, sp. n.

Allied to *M. verecundus*, Thos.*, but smaller. Under surface little lighter than upper. Size decidedly less than in *M. verecundus*. Fur very fine and soft, without any intermixture of flattened hairs or spines; hairs of back about 11–12 mm. in length. General colour above uniform bistre-brown, with a very fine buffy ticking; sides slightly lighter, their colour passing imperceptibly into the broccoli-brown of the under surface, the hairs of which are slaty with dull buffy points. Muzzle dark greyish brown, crest of head like body. Ears rather small, uniformly dark brown. Fore limbs dark; the digits white, these being the only light-coloured part of the whole animal. Hind limbs and feet dark brown throughout, the feet proportionately long and narrow, as in *M. verecundus*. Tail about as long as the head and body, finely scaled (15 rings to the cm.), almost naked, the hairs not hiding the scales; uniformly dark brown throughout, above and below.

Skull very similar to that of *M. verecundus*, but considerably smaller. Interorbital region and brain-case rounded, practically without ridges. Anteorbital plate slanting, narrow, little projected forward. Palatal foramina much smaller than in *M. verecundus*, not reaching nearly to the level of the molars. Bullæ fairly large.

Teeth as in *M. verecundus*, the characteristic simplicity, absence of supplementary cusps, and unusually slight bowing of the laminae all as marked as in that species.

Dimensions of the type (taken on the skin):—

Head and body 126 mm.; tail 134; hind foot 27; ear 16.

Skull: greatest length 32.5; basal length 25.3; greatest breadth 14.8; nasals 12×3.6 ; interorbital breadth 5.7; breadth of brain-case 14; height of muzzle behind incisors 5.2; diastema 8.3; palatal foramina 4.9×2.3 ; length of upper molar series 5.4.

Hab. Owgarra, Angabunga R., S.E. British New Guinea.

Type. Young adult. B.M. no. 5. 11. 28. 7. Collected 15th November, 1904, by Mr. A. S. Meek.

Uromys platyops, sp. n.

A medium-sized species, with a low flat skull.

Size about as in *U. Moncktoni*, rather less than in *U. levipes*. Fur soft, fine, and close; hairs of back about 10 mm. in length. General colour above dark cinnamon-brown,

* Nov. Zool. xi. p. 598 (1904).

blackened along the dorsal area, turning to rufous on the rump. Under surface greyish throughout, the hairs everywhere slaty at base, greyish white terminally, not tinged with buffy. Head markedly greyer than body. Ears brown. Hands and feet finely haired, whitish; the digits almost naked. Tail decidedly shorter than the head and body, practically naked, the hairs as minute and few in number as in *U. levipes*; in colour the tail is blackish brown above and white or whitish below for its whole length.

Skull peculiarly broad, low, and flat, the height from the molars to the supraorbital edges nearly 2 mm. less than in either *Moncktoni* or *levipes*. Interorbital space broad, flat, square-edged. Rudimentary processes present at the antero-external corners of the brain-case. Palatal foramina narrow. Bullæ small.

Dimensions of the type (measured in skin):—

Head and body about 144 mm.; tail 116; hind foot 30; ear 15.

Skull: greatest length 37; basilar length 29.4; greatest breadth 18.5; length of nasals 12.7; interorbital breadth 6; breadth of brain-case 14.7; height of muzzle behind incisors 7; height of supraorbital edge above palate behind m^1 8.2; palatal length 17; diastema 10; palatal foramina 5; length of upper molar series 7.

Hab. Head of Aroa River, S.E. British New Guinea.

Type. Adult male. B.M. no. 5. 11. 28. 18. Collected 25th April, 1905, by Mr. A. S. Meek. Two specimens.

This species is allied only to *U. levipes* and *U. Moncktoni*. From the first it differs by its much shorter hind feet, from the latter by its clear greyish belly and naked tail, and from both by its unusually low skull. The height of the skull from the outer posterior base of m^1 to the supraorbital edges is in *U. levipes* 10.1 mm. and in *U. Moncktoni* 9.9, as compared with 8.2 in *U. platyops*.

Uromys gracilis, sp. n.

A medium-sized species with a long tail and narrow skull.

Size about as in *U. Stalkeri*. Fur long and close; hairs of back about 11 mm. in length. General colour above uniform cinnamon-brown, the sides rather brighter and lighter than the back. Under surface pure white (the hairs white to the roots) on the throat, chest, middle line of belly, and in the inguinal region, but the hairs are slaty at base along the sides of the belly. Head rather greyer than the back. Ears short, thinly haired, brown. Hands and feet almost naked,

pale brown, the digits lighter. Tail longer than in the other allied species, finely scaled (15 rings to the em.), dark brown above and below to the tip.

Skull delicately built, rather narrow, its interorbital edges with a fairly distinct beading. Anteorbital plate slightly projected forward. Bulke small.

Dimensions of the type (measured in skin):—

Head and body about 140 mm.; tail 175; hind foot 27; ear 16.

Skull: greatest length 33.8; basilar length 27.5; greatest breadth 17.2; length of nasals 11; interorbital breadth 5; breadth of brain-case 14; height of muzzle behind incisors 6.4; palatilar length 14.8; diastema 9.5; palatal foramina 4.4×2 ; length of upper molar series 6.2.

Hab. Ougarra, Angabunga R., S.E. British New Guinea.

Type. Adult female. B.M. no. 5. 11. 28. 15. Collected 13th November, 1904, by Mr. A. S. Meek. Two specimens.

This species is readily distinguishable from its nearest ally, *U. Stalkeri*, Thos.*, with which it agrees in colour, by its longer tail and markedly narrower interorbital region.

Pseudochirus avarus, sp. n.

Very like *Ps. canescens*, but without the dark ear-patch.

Fur close and fine; hairs of back 10–11 mm. in length. General colour of body above grey (near "smoke-grey"), the middle line darker and more brownish. Under surface ochraceous buff, not sharply defined laterally. Head tawny ochraceous, duller above, richest on the cheeks, a narrow sharply defined blackish frontal line present. Ears naked internally, well-furred but not tufted externally, their backs tawny, not blackened as in *Ps. canescens*, and with no darkening round their bases. Forearms and hands, feet and inner sides of legs ochraceous. Tail greyish basally, getting rather more brownish terminally, but not blackening at the tip; under surface ochraceous along the middle line from the basal half; tip naked below for about two inches.

Skull apparently as in *Ps. canescens*, the ridges strongly marked. Molars slightly smaller than in the type of *Ps. canescens gyrator*.

Dimensions of the type (measured in skin):—

Head and body 250 mm.; tail 210; hind foot (wet) 29; ear (wet) 14.

Skull: occipital ridge to tip of nasals 49; zygomatic breadth 29.5; nasals 17×6.6 ; interorbital breadth 7.2;

* Ann. & Mag. Nat. Hist. (7) xiv. p. 202 (1904).

palatal length 25·5; palatal foramen 5; length of three anterior molariform teeth 7·6; length of lower tooth-row 13·5.

Hab. Port Moresby, British New Guinea.

Type. Adult male. B.M. no. 6. 1. 26. 2.

This Phalanger may be readily distinguished from all forms of *Ps. canescens* by its tawny-backed ears, without darkening either on or round them. In most other respects it is very like that species, or at least like *Ps. canescens gyратор**, with which alone I have been able directly to compare it.

Dasyuroides Byrnei pallidior, subsp. n.

Similar in essential characters to true *Byrnei*, but slightly smaller, paler, and with smaller bullæ.

Hair of back about 12 mm. in length. General colour above near "drab-grey" of Ridgway, or very slightly yellower, the brown of *D. Byrnei* being near "isabella." Basal portion of tail pale yellowish white, as compared with the orange of *D. Byrnei*. Colour otherwise as in that animal.

Skull rather shorter than in *Byrnei*, and the teeth slightly smaller. Bullæ markedly smaller than those in the corresponding sex of *D. Byrnei*, their greatest length in the male type of *pallidior* 14 mm., as compared with 15·5 in the male *Byrnei*, and the vertical height of the brain-case and bullæ combined only 16 mm. as compared with 17·5. The mastoid portion of the bullæ also obviously smaller, its diameter at right angles to its longer axis about 5 mm. in *pallidior*, 6 mm. in *Byrnei*; the part behind and above the meatus is also obviously more inflated in *Byrnei* than in *pallidior*. The female even of *D. Byrnei* has slightly larger bullæ than the male *pallidior*.

Dimensions of the type (measured on the spirit-specimen):—

Head and body 146 mm.; tail 132; hind foot 40; ear 26.

Skull: greatest length 42; basal length 39; greatest breadth 24·5; constriction 7·2; palate length 21·8; combined length of three anterior molariform teeth 8·7.

Hab. Killalpanima, E. of Lake Eyre North, South Australia.

Type. Adult male. B.M. no. 5. 8. 9. 7. Collected and presented by H. J. Hillier, Esq.

Both the type of *D. B. pallidior* and the toptotypical examples of *D. Byrnei* with which I have compared it have been skinned out of spirit, so that their coloration may have been more or less affected.

* Ann. & Mag. Nat. Hist. (7) xiv. p. 401 (1904).

It is a curious fact that both in *Dasyuroides* and *Antechinomys*, genera in which the bullæ are greatly developed, the male has decidedly larger bullæ than the female. Whether there is any adaptive reason for this or whether it is that the male leads the way in the development of specialized characters it is not easy to say.

Antechinomys Spenceri, sp. n.

A sandy-coloured species with larger ears and much larger bullæ than *A. laniger*. Size averaging slightly larger than in *A. laniger*. Fur long, soft and fine; hairs of back about 9-10 mm. in length. General colour dull sandy, the hairs slaty for their basal three fifths, with a buffy subterminal ring and a brown or blackish tip. Under surface white, the hairs slaty for their basal third. Head paler than back. Ears very large, their short fine hairs pale buffy on the proctote, whitish on the metentote. Hands and feet of the same structure as in *A. laniger*, their upper surfaces white or creamy white. Tail long, more heavily tufted than in *A. laniger*, pale buffy on the sides, mixed with brown on the top and below, the tuft dark seal-brown, its hairs 7-8 mm. in length.

Skull with a longer slenderer muzzle than that of *A. laniger*. Bullæ in female distinctly larger than those of the male type of *A. laniger*, and in the male immensely larger, their height (measured vertically downwards from the glenoid surface) 4.5 mm. in the male *A. Spenceri*, 4.1 in the female and 3.5 in the male *A. laniger*.

Teeth as in *A. laniger*.

Dimensions of the type (measured on the spirit-specimen):—

Head and body 87; tail 133; hind foot 32.3; ear 23.

Skull: greatest length 29; basal length 26.7; greatest breadth 15.7; muzzle to orbit 12.6*; interorbital breadth 5.6; palate length 15.3; horizontal length of bulla taken parallel to the middle line 7.5†; combined length of three anterior molariform teeth 4.9.

Hab. Charlotte Waters, Central Australia.

Type. Female in spirit. B.M. no. 97. 11. 3. 12. Collected on the Horn Expedition by Prof. Baldwin Spencer.

In the 'Report of the Horn Expedition' ‡ Prof. Spencer referred the Central-Australian *Antechinomys* to *A. laniger*, but the recent donation by Mr. R. T. Maurice of a pair

* In *A. laniger* 11.

† In the male 8.3; in *A. laniger* (♂) 6.6.

‡ Mamm. p. 40 (1896).

of specimens from Charlotte Waters has drawn my attention to the animal, and I find such differences between the Central-Australian form and the type from New South Wales that I have no hesitation in distinguishing them specifically. The specimen chosen as the type is one of those referred to by Prof. Spencer, in whose honour I have much pleasure in naming the species.

XLIII.—*Descriptions of Two new Cyprinid Fishes from Yunnan Fu, collected by Mr. John Graham.* By C. TATE REGAN, B.A.

Cyprinus micristius.

Pharyngeal teeth molar-like, 3.1.1—1.1.3. Depth of body about 3 in the length, length of head $3\frac{1}{2}$ — $3\frac{3}{4}$. Snout as long or nearly as long as eye, the diameter of which is $3\frac{1}{3}$ — $3\frac{1}{2}$ in the length of head and equal or nearly equal to the inter-orbital width. Jaws nearly equal anteriorly; maxillary extending to below the nostrils; two barbels on each side, the anterior shorter than the posterior, which is equal in length to $\frac{1}{2}$ the diameter of eye. Scales 37—38 $\frac{6\frac{1}{2}}{7}$, 4 between lateral line and root of ventral. Dorsal IV 11, its origin equidistant from tip of snout and base of caudal or slightly nearer the latter; last simple ray a serrated spine; first branched ray the longest, $\frac{2}{3}$ the length of head. Anal III 5, with a serrated spine exactly similar to that of the dorsal. Pectoral extending almost to the root of the ventral; ventrals with 9 to 11 rays, inserted below or slightly in advance of the origin of dorsal, extending to the vent. Caudal forked. Caudal peduncle $1\frac{1}{3}$ — $1\frac{1}{2}$ as long as deep. Olivaceous above, silvery below; each scale with a dark vertically expanded spot at its base; dorsal, base of caudal, and anterior part of anal with numerous blackish dots.

Three specimens, 90 to 120 mm. in total length.

This fish differs considerably from the carp, *Cyprinus carpio*, in the smaller number of rays in the dorsal fin, but they are strikingly similar in all other characters. The general appearance of the head, the shape and extent of the suborbital and opercular bones, the size and structure of the scales, the shape and size of the fins other than the dorsal, are almost exactly as in *Cyprinus carpio*, whilst the pharyngeal dentition differs in no respect from that of the carp.